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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,338	01/23/2002	Yoshiyuki Imanaka	03500.013949.1	8506

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EXAMINER

DUDDING, ALFRED E

ART UNIT PAPER NUMBER

2853

DATE MAILED: 04/30/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,338

Applicant(s)

IMANAKA ET AL.

Examiner

Alfred E. Dudding

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-51 and 55-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-51 and 55-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 13
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 31, 47, 51, and 55 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 31, 47, 51, and 55 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: there is no structural relationship to memory element on the printhead substrate as to the data recording (writing) means and write inhibition means cited in the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 31 – 36, 39 – 43, 45 – 51, 55 – 63, 65 - 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. (U.S. 6,610,635 A) in view of Childers et al. (U.S. 6,318,850 B1).

Art Unit: 2853

Murray et al. discloses a head substrate of a printing head detachably mounted on a printer main body, Figure 1, element 40 (carriage assembly) and Figure 2, element 40 (printhead cartridge), comprising plural external connection terminals for externally entering various signals and a driving electric power; Figure 6, elements 1 - 10 (contact pads), recording execution means for executing a recording operation according to the various signals and the driving electric power externally entered into said external connection terminals, Figure 5, element 86 (driver logic); data memory means for executing data writing and data readout; memory access means for executing the data writing into said data memory means in response to the various signals and the driving electric power externally entered into said external connection terminals and the data readout corresponding to the various signals, Figure 5: element 48 (memory) is controlled by elements 86 (logic) and 91(printer system) and can communicate also with the processing driver head, Column 4, lines 41 - 42, Column 7, lines1 - 10.

Murray et al. fail to teach the claimed invention of a writing inhibition means for permanently disabling the data writing into said data memory means by said memory access means.

Childers et al. discloses a memory device that has write enable protection and permanent disabling of the write enable line by electronic means, Column 7, lines 23 - 25 and lines 33 - 37, Figure 5, element 34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the memory of Childers et al. in the invention of Barbour et al. in order to write protect important data of a device connected to as microprocessor. The motivation/suggestion is given by the '850 patent, Column 2, lines 25 - 27, the refurbishing

Art Unit: 2853

methods include electrical and mechanical reconfiguration of original elements on the ink delivery system.

6. Claims 37, 63, and 44 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. as applied to claim 1 above, in view of Childers et al., and further in view of Imanaka et al. (U.S. 6,168,251 B1).

The combination of Murray et al. and Childers et al. fail to teach the claimed invention of a memory device with a serial input.

Imanaka et al. discloses a serial input shift register, Figure 5, element 704.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shift register if Imanaka et al. in the combined invention of Murray et al. and Childers et al. in order to minimize I/O wiring to the printhead and in the printhead substrate. The motivation/suggestion is given by the '251 patent, Figure 5, which shows that element 704 has only three inputs: a shift clock (CLK), a reset (RST), and a data input (DATA).

7. Claims 38, 64, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. as applied to claim 1 above, in view of Childers et al., and further in view of National Semiconductor, Corp., 1981 Logic Databook, 1981, pp.6-98-101.

The combination of Murray et al. and Knothe et al. fail to teach the claimed invention of a memory device having a parallel input and a serial output.

National Semiconductor Corp. discloses a serial input shift register having parallel outputs, pages 6-98-101, device DM74LS165.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the National Semiconductor Corp. shift register in the combined invention of

Art Unit: 2853

Murray et al. and Childers et al. in order to accommodate a parallel input from a controller. The motivation/suggestion would be to increase data transfer by transferring n-bits of data with a single clocking pulse as compared to a serial input shift register which requires n clocks to input n-bits of data.

Response to Arguments

8. Applicant's arguments with respect to claims 31, 36, 40 – 43, 47 – 51, 53, 55, 57, 59 – 62, and 65 – 64. have been considered but are moot in view of the new ground(s) of rejection.

Murray et al. discloses placing a memory unit on the printhead that is programmable. Childers et al. disclose placing a write-protected memory on a **disposable** ink container.

Art Unit: 2853

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Dudding whose telephone number is (703) 308-6082. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams, AU 2853, can be reached at (703) 308-7062. The fax phone numbers for this Group are (703) 305-3432, (703) 305-3431, (703) 308-7382, (703) 308-7724, and (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0956.

Alfred Dudding

AD

✓ 10-2-27


JUDY NGUYEN
PRIMARY EXAMINER